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CHAPTER REPORTS

THE CHICAGO CHAPTER

The regular autumn quarter meeting of the Society was held at the Quadrangle Club on December 1, 1913, when the address of the evening was given by Professor Jacques Loeb, of the Rockefeller Institute for Medical Research, who spoke on Recent Experiments on Artificial Parthenogenesis. At the winter quarter meeting on March 11, 1914, Professor Samuel W. Williston, of the University of Chicago, addressed the Society on Recent Discoveries Relative to the Early Land Life of North America. The spring quarter meeting on May 19, 1914, was a dinner in the Hutchinson Commons, following which Dr. Ira Remsen, President Emeritus of Johns Hopkins University, spoke upon Reminiscences of Sylvester and Rowland.

During the year the following graduate students were initiated into the Chapter:

Harold S. Adams, A.B., Williams 1911. Fellow in Chemistry.

Research: Overvoltage.

William Harley Barber, S.B., Wisconsin 1901; A. M., *Ibid.* 1909.

Professor of Physics, Ripon College.

Research: The Nature of the Ionization Produced by α Particles.

Bernard Brown, A.B., Peabody College 1903.

Research: A Maximal Property of the Flow of Viscous Liquids Through Tubes.

George T. Caldwell, A.B., Ohio State 1910; A.M., *Ibid.* 1913.

Research Assistant in Pathology.

Research: Chemistry of Tuberculosis; Inhibition of Autolysis by Alcohol.

Charles Carlyle Colby, Ph.B., Michigan State Normal College 1906;

S.B., Chicago 1909. Professor of Geography, State Normal School, Winona, Minn.

Research: Geography of Minnesota; Geography of the Driftless Area of Minnesota.

Richard Adolphus Conkling, A.B., Oklahoma. Fellow in Geology.

Research: Investigations on Petroleum in Venezuela.

Karl Kelchner Darrow, S.B., Chicago 1911. Fellow in Physics.

Research: Ratio of Specific Heats of Hydrogen at Low Temperatures.

Howard de Forest, S.B., Princeton 1895; M.F., Yale 1911.

Research: An Analysis of Forestry; The Scope of Dendrology.

Mary Louise Foster, A.B., Smith 1891; A.M., *Ibid.* 1912. Instructor, Smith College.

Research: Biochemical Activity of *Bacillus lactis erythrogenes*; Metabolism of *Pneumococcus*, etc.; Quantitative Determination of Indol and Skatol.

Meyer G. Gaba, S.B., Chicago 1907; S.M., *Ibid.* 1908. Instructor in Mathematics, Dartmouth, 1911-13.

Research: A Set of Postulates for General Projective Geometry in Dimensions.

Minnie Ryder Getman, A.B., Mount Holyoke 1904; Ph.B., State Normal College, Albany, 1905. Teacher of Botany, Lake Erie College, Painesville, Ohio.

Research: The Development of the Thallus and Conceptacles of *Hormeseria*.

Wilby T. Gooch, S.B., Bayler University 1906; S. M., *Ibid.*

Research: The Velocity of Saponification of Esters.

Kenneth Hallock, A.B., Hamilton 1910.

Research: Glands of Internal Secretion; Action of Bitters on Stomach.

James Harold Hance, S.B., Northwestern 1901; Washington 1908; E.M., Washington 1911. Assistant Geologist, U. S. Geological Survey.

Research: U. S. Geological Survey publications; Glendine Lignite Field; Potash in Western Salines; Coalale Coal Field, Nev.; Clay Occurrence and Industry.

William L. Hart, S.B., Chicago; S.M., *Ibid.* 1914. Fellow in Mathematics.

Research: Trigonometric Series; Solution of Equations by Methods of Successive Approximations; Theorem in Differential Equations.

Olive Clio Hazlett, A.B., Radcliffe 1912.

Research: Invariantive Characterization of Linear Associative Algebras in a Small Number of Units; Classification and Invariantive Characterization of Nilpotent Algebras.

Lewis V. Heilbrum, A.B., Cornell 1911. Assistant in Zoology.

Research: Studies in Artificial Parthenogenesis.

John Martin Herald, A.B., Oklahoma 1912. Fellow in Geology.

Research: Oil and Gas in Chehalis and Jefferson Counties, Washington.

Andrew Henderson Hutchinson, A.B., McMasters 1909; A.M., *Ibid.* 1913. Fellow in Botany.

Research: The Male Gametophyte of *Abies*.

Julian H. Lewis, A.B., Illinois 1911; A.M., *Ibid.* 1912. Fellow in Pathology.

Research: Absorption of Proteins in Relation to Anaphylactic Shock.

Leonard B. Loeb, S.B., Chicago 1912.

Research: The Mobility of Ions in High Fields.

Bertha Martin, A.B., Mount Holyoke 1909.

Research: Development of Teeth in the Nine-banded Armadillo.

Carl Danforth Miller, S.B., Richmond College, Va. Fellow in Physics.

Research: The Energy of Emission of β Particles liberated by Characteristic X Rays.

Wandell Zerbe Miller, S.B., Ohio Wesleyan 1912.

Research: Experimental Investigation on the Development of Mountain Structure.

Frederick Byron Plummer, S.B., Dartmouth 1909. Fellow in Geology.

Research: Geology of the White Mountains.

Terence Thomas Quirke, E.M., North Dakota 1912; S.M., *Ibid.* 1913. Fellow in Geology.

Research: Geology of the Kildeer Mountains, N. D.; Geology of Rocque Island; On Economic Uses of Coal Clays.

Mabel Lewis Roe, A.B., Vassar 1903.

Research: The Development and Relationship of Splachnidium.

Wilmer Henry Souder, A.B., Indiana 1910; A.M., *Ibid.* 1911. Fellow in Physics.

Research: (With A. L. Foley) A New Method of Photographing Sound Waves; Photo Electric Effect.

Isabel Seymour Smith, A.B., Oberlin 1901; S.M., Chicago 1905. Professor of Biology, Illinois College.

Research: Nutrition of the Egg in *Zamia*.

Bert Allen Stagner, S.B., Missouri 1909; A.M., *Ibid.* 1910.

Research: The Molecular Rearrangement of Triarylmethylhydroxylamine.

V. O. Tansey, S.B., Chicago 1913.

Research: Origin of Pyrite and Marcasite in Coal and Associated Sediments.

Helen Tredway, A.B., Bryn Mawr 1911. Fellow in Chemistry.

Research: Thermal Decomposition of Hydrazines.

Mary Evelyn Wells, A.B., Mount Holyoke 1904; S.M., Chicago 1907. Fellow in Mathematics.

Research: Determination of Schwarz Relations in the Theory of Linear Integral Equations.

Stephen Sargent Visser, S.B., Chicago 1909; M.S., South Dakota 1910; M. A., *Ibid.* 1912. Fellow in Geography.

Research: The Geography of South Central South Dakota.

Clyde Wayland White, A.B., Ohio State 1910.

Research: Brownian Movements in Different Gases at Low Pressures.

Walter Tichnor Whitney, S.B., Pomona College 1910; S.M., *Ibid.* 1912.

Research: The Accurate Determination of the Color Curve of a Littrow Spectrograph Objective; Study of the Solar Granulation; A Chromograph Recording Apparatus.

Forbes Bagley Wiley, A.B., Kalamazoo 1906, and Chicago 1906. Professor of Mathematics, Dennison University.

Research: Finiteness of Modular Covariants with Cogredient Variables.

Chester Henry Yeaton, A.B., Bowdoin 1908; A.M., Harvard 1909. Fellow in Mathematics.

Research: On the Projective Differential Geometry of Curved Surfaces.

The active membership of the chapter at the present time numbers 166.

ROLLIN T. CHAMBERLIN, *Secretary*.

THE PURDUE CHAPTER

Three open meetings were held during the academic year as follows:

October 29, 1913, an address on New Facts About Molecules and Atoms, by Prof. R. A. Millikan, Associate Professor of Physics, Chicago University. The main points of the speaker may be given in abstract as follows:

1. Molecular motions in gases both translational and rotational were first described and discussed and some of the simplest arguments for the correctness of the pictures given were presented. These dealt with recent experiments on Brownian Movements and on the specific heats of monatomic and diatomic gases.

2. The number of molecules in a cubic centimeter of air was given and the process of accurately counting that number as well as that of precisely weighing a single molecule was briefly described and explained.

3. The inside of the atom was considered and the evidence presented to show that each atom contains a number of minute negatively electrified bodies called electrons, and that the process of "ionization" of a gas by X rays consists in detaching from a neutral atom or molecule one single electron.

4. Photographic evidence was presented to show that an atomic system is so loose a structure that one atom when endowed

with sufficient speed may pass in a straight line through millions of other atoms without doing anything more than here and there to detach an electron from an occasional atom.

5. Evidence was presented to show that in the solid state the atoms have definite positions of equilibrium about which they oscillate with definite and measurable periods. Thus is solved the century-long riddle as to the significance of Dulong and Pettit's law.

January 7, 1914, an address on The Work of the Veterinary Department in the Control of Hog Cholera, by Dr. R. A. Craig, Professor of Veterinary Science, Purdue University.

Dr. Craig reviewed the history of the disease in this country and the work which had been done on hog cholera problems by the Bureau of Animal Industry of the U. S. Department of Agriculture, and the various state experiment stations. He showed the extent of the financial loss to Indiana from this disease during the past eighteen years and sketched the early efforts of control by isolation, sanitation, modification of rations, etc. The speaker then discussed the origin and development of the serum treatment at the Purdue University Experiment Station, described the various processes in the production of anti-hog cholera serum, and showed the extent and the results of the serum treatment in the protection of herds in Indiana.

April 24, 1914, an address on The Ice Age in the Rocky Mountains, by Dean Edward Orton, Ohio State University.

The lecture was illustrated by lantern slides and was well attended. Dean Orton's extensive travel and well-known ability as a geologist together with the exceptionally fine views which he presented, made his address greatly appreciated.

ELECTION OF NEW MEMBERS

The following named persons were elected to membership at a business meeting of the Chapter on May 20, 1914. Those elected from the faculty were elected on the basis of their achievement in research; undergraduate students were elected on the basis of their promise of ability and achievement in the field of research.

FACULTY ELECTIONS

Otto Custer Berry, A.B., University of Michigan, 1905; B.S. in M.E., University of Michigan, 1906; M.E., University of Wisconsin, 1910. Instructor in Engineering laboratory.

Research: Tar-Forming Temperatures of American Coals. Bulletin, University of Wisconsin, 1914.

Louis E. Endsley, B.S. in M.E., Purdue University, 1901; M.E., Purdue University, 1903. Professor of Railway Mechanical Engineering.

Research: Some Experiments with Freight Car Trucks. Pamphlets Nos. 1 and 2, Published by the American Steel Foundries, 1911, 1912. Papers on Superheated Steam. Proc. Railway Master Mechanics Assn. for 1910, 1911, 1912, 1913.

Curtis M. Hilliard, A.B., Dartmouth College, 1909; Graduate student, Mass. Institute of Technology, 1909-10; Assistant in Bacteriology and Physiology, College of City of New York, 1910-12. Assistant Professor of Sanitary Science.

Research: A Statistical Study of the Streptococci from Milk and from the Human Throat. Jour. Infectious Diseases, 41:144-164. A study of the Streptococci of the Throat. Jour. Infectious Diseases of Children, 3:287-293. Hypochlorite Treatment of Water. Proc. N. Y. Medical Assn., 1912. Further Studies in the Hypochlorite Treatment of Water. Ind. Engineering Soc., Jan. 1913. A Biometric Study of the Streptococci. Proc. Indiana Academy of Science, 1913, p. 155.

Alfred Still, Finsbury Technical College, London, 1886 to 1890. College de Dieppe, Paris. Assistant Professor of Electrical Engineering.

Research: Principles of Transformer Design. London Electrician, 1894. Armature Losses in Double-Current Generators. Electrical World, Aug. 12, 1905. Simple Diagrams for Three-Phase Power Calculations. Power, N. Y., Mar. 1906. The Theory of the Single-Phase Induction Motor. Electrical World, Dec. 8, 15, 22, 1906. Inductance of Electric Transmission Lines with Unsymmetrically Disposed Conductors. Electrical World, May 23, 1908. Flexible Supports for Overhead Transmission Lines. Electrical World, July 13, 1912. Commutation. Electrical World, July 20 and 27, 1914. Books: Alternating Currents of Electricity. Whittaker and Co., London, 1898; 2nd edition, 1914. Polyphase Currents. Whittaker & Co., London, 1906. Overhead Electric Power Transmission. McGraw Book Co.

UNDERGRADUATES (All graduated in June, 1914)

G. L. Ogle, Agriculture

F. E. Allison, Agriculture

DeMotte Clark Beach, Pharmacy
 Merle Robert Meacham, Chemical Engineering
 Francis Frazee Hamilton, Electrical Engineering
 Horace W. Asire, Electrical Engineering
 Herbert Allen Minturn, Mechanical Engineering
 David Milton Yoder, Mechanical Engineering
 Vincent Willard Young, Mechanical Engineering
 John Wesley Ball, Civil Engineering

R. L. SACKETT, *Corresponding Secretary.*

THE UNION CHAPTER

The Union Chapter has shown unusual vitality this past year owing to the attractive series of lectures arranged by the program committee. This has included addresses on The Glacial Period in Schenectady and Saratoga Quadrangles by Dr. J. L. Stoller; Lighting by Dr. E. J. Berg; Animals of the Ancient World by Mr. Langdon Gibson; Research by Dr. W. R. Whitney.

In March a joint meeting was held with the Phi Beta Kappa Society. At this meeting a paper was read by Dr. J. L. March on Rudyard Kipling.

The men who were elected into membership at the annual meeting were:

SENIORS

Morgan L. Williams	Honor Student
Warren C. Vosburg	Scientific Course
William A. Mudge	Scientific Course
John A. Hall	Electrical Engineering Course
Bert N. Hubbard	Electrical Engineering
Luther A. Hagar	Electrical Engineering
Walter C. Smith	Electrical Engineering
William G. Lutz	General Engineering

GRADUATE STUDENTS

Walter Von D. Tiedeman	Sanitary Engineering
Nicholas S. Diamant	Electrical Engineering

The seniors are chosen in the Union Chapter from those who have been granted special honors in Scientific courses and from those who have attained the highest rank in the Electrical and General Engineering courses or shown marked ability along scientific lines.

WARREN C. TAYLOR, *Secretary*